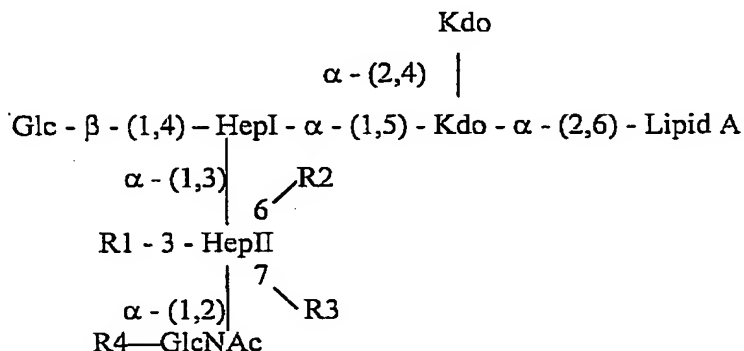


### AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A vaccine for the treatment of a disease caused by a pathogenic *Neisseria*, the vaccine comprising ~~an~~ at least one immunogenic component, said immunogenic component being an epitope on a *Neisseria* lipopolysaccharide inner core characterized by the presence of a phosphoethanolamine moiety linked to a 3, 6, 7, or a combination thereof, position of HepII of the inner core, based on the inner core of a *Neisseria* lipopolysaccharide, LPS, wherein said vaccine and being is capable of eliciting ~~functional protective and/or immunoprophylactic~~ antibodies against a ~~majority of the strains within the species of the pathogenic *Neisseria*~~ pathogenic *Neisseria* strain.
2. (Currently Amended) ~~A vaccine according to claim~~ The vaccine of claim 1, wherein ~~the said immunogenic component is capable of eliciting functional protective and/or immunoprophylactic antibodies against at least 60% of the strains within the species of the pathogenic *Neisseria*~~ pathogenic *Neisseria* strains.
3. (Currently Amended) ~~A vaccine according to claim~~ The vaccine of claim 2, wherein ~~the said immunogenic component is capable of eliciting functional protective and/or immunoprophylactic antibodies against at least 70% of the strains within the species of the pathogenic *Neisseria*~~ pathogenic *Neisseria* strains.
4. (Currently Amended) ~~A vaccine according to claim~~ The vaccine of claim 1, wherein the immunogenic component is substantially free from outer core lipopolysaccharide.
5. (Currently Amended) ~~A vaccine according to claim~~ The vaccine of claim 1, wherein the species of the pathogenic *Neisseria* is *Neisseria meningitidis*.
6. (Currently Amended) ~~A vaccine according to claim~~ The vaccine of claim 5, wherein the antibodies are elicited by and specifically recognize an ~~[[the]]~~ immunogenic component of ~~[[in]]~~ at least 50 % of group B strains of *Neisseria meningitidis*.
7. (Currently Amended) ~~A vaccine according to claim~~ The vaccine of claim 5, wherein the antibodies are elicited by and specifically recognize an ~~[[the]]~~ immunogenic component of ~~[[in]]~~ at least 60% of group B strains of *Neisseria meningitidis*.
8. (Currently Amended) ~~A vaccine according to claim~~ The vaccine of claim 5, wherein the antibodies are elicited by and specifically recognize an ~~[[the]]~~ immunogenic component of ~~[[in]]~~ at least 70% of group B strains of *Neisseria meningitidis*.

9. (Currently Amended) ~~A vaccine according to claim 1, wherein the immunogenic component comprises [[of]] or consists of an epitope which is a part or all of the inner core structure of a~~ The vaccine of claim 1, wherein the immunogenic component comprises [[of]] or consists of an epitope which is a part or all of the inner core structure of a ~~of said *Neisseria* LPS inner core, is derived purified from this inner core, is a synthetic version of the inner core, or is a functional structural~~ of said *Neisseria* LPS inner core, is derived purified from this inner core, is a synthetic version of the inner core, or is a functional structural equivalent thereof.
10. (Currently Amended) ~~A vaccine according to claim 1, wherein the immunogenic component is an epitope on the LPS inner core characterized by the presence of a phosphoethanolamine moiety linked to the 3-position at HepII of the inner core, or is a functional structural~~ The vaccine of claim 1, wherein the immunogenic component is an epitope on the LPS inner core characterized by the presence of a phosphoethanolamine moiety linked to the 3-position at HepII of the inner core, or is a functional structural equivalent thereof.
11. (Currently Amended) ~~A vaccine according to claim 1, wherein said immunogenic component is an epitope on the LPS inner core which comprises a glucose residue at HepI.~~ The vaccine of claim 1, wherein said immunogenic component is an epitope on the LPS inner core which comprises a glucose residue at HepI.
12. (Currently Amended) ~~A vaccine according to claim 1 or 2, wherein the immunogenic component is an epitope on the LPS inner core which comprises an N-acetyl glucosamine at HepII of the inner core LPS.~~ The vaccine of claim 1 or 2, wherein the immunogenic component is an epitope on the LPS inner core which comprises an N-acetyl glucosamine at HepII of the inner core LPS.
13. (Currently Amended) ~~A vaccine according to claim 1, wherein the inner core LPS consists of an inner core oligosaccharide attached to lipid A, with the general formula as shown:~~ The vaccine of claim 1, wherein the inner core LPS consists of an inner core oligosaccharide attached to lipid A, with the general formula as shown:



where R1 is a substituent at the 3-position of HepII, and is hydrogen or Glc- $\alpha$ -(1, or phosphoethanolamine; R2 is a substituent at the 6-position of HepII, and is hydrogen or phosphoethanolamine; R3 is a substituent at the 7-position of HepII, and is hydrogen or phosphoethanolamine, and R4 is acetyl or hydrogen at the 3-position, 4-position or 6-position of the GlcNAc residue, or any combination thereof; and where Glc is D-glucopyranose; Kdo is 3-deoxy-D-manno-2-octulosonic acid; Hep is L-glycero-D-

*manno*-heptose, and GlcNAc is 2-acetamido-2-deoxy-D-glucopyranose.

14. (Currently Amended) ~~A vaccine according to claim 1,~~ A vaccine for the treatment of a disease caused by a pathogenic *Neisseria*, the vaccine comprising at least one immunogenic component wherein said immunogenic component is reactive with the B5 a monoclonal antibody produced by the hybridoma deposited under accession number IDAC 260900-1, wherein said vaccine is capable of eliciting protective and/or immunoprophylactic antibodies against a pathogenic *Neisseria* strain.
15. (Currently Amended) ~~The vaccine of claim 1, A vaccine comprising a few immunogenic component[s]] based on the inner core of a *Neisseria* lipopolysaccharide, LPS, and being capable of eliciting functional antibodies against a majority of the strains within the species of the pathogenic *Neisseria*, further comprising a second immunogenic component, said second immunogenic component being an epitope on a *Neisseria* lipopolysaccharide inner core characterized by the presence of a phosphoethanolamine moiety linked to a 3, 6, 7, or a combination thereof, position of HepII of the inner core, wherein said phosphoethanolamine moiety of said second immunogenic component is linked to a different position of said HepII of the inner core than said phosphoethanolamine moiety of the immunogenic component of claim 1.~~
16. (Currently Amended) ~~A vaccine according to claim 15~~ The vaccine of claim 1, and including an immunogenic component as defined in any of claims 1 to 14 wherein said immunogenic component has two phosphoethanolamine moieties located at two positions on said HepII, a first said position being the 3- position, and a second said position being the 6- or the 7- position.
17. (Currently Amended) ~~A vaccine according to claim 15, wherein the said few immunogenic components vaccine elicits functional protective and/or immunoprophylactic antibodies against [[in]] at least 85% of the strains within the species of the pathogenic *Neisseria*~~ The vaccine of claim 15, wherein the said few immunogenic components vaccine elicits functional protective and/or immunoprophylactic antibodies against [[in]] at least 85% of the strains within the species of the pathogenic *Neisseria*
18. (Currently Amended) ~~A vaccine according to claim 17, wherein the said few immunogenic components vaccine elicits functional protective and/or immunoprophylactic antibodies against [[in]] at least 95% of the strains within the species of the pathogenic *Neisseria*~~ The vaccine of claim 17, wherein the said few immunogenic components vaccine elicits functional protective and/or immunoprophylactic antibodies against [[in]] at least 95% of the strains within the species of the pathogenic *Neisseria*
19. Cancelled.
20. (Currently Amended) ~~A vaccine according to claim 1,~~ The vaccine of claim 1, wherein [[the]] said immunogenic component element of the vaccine is an epitope accessible on [[the]] a bacterium in the presence of a lipopolysaccharide outer core of a bacterial capsule.

21. (Currently Amended) ~~A vaccine according to claim 1, wherein said immunogenic element is comprising one or more immunogen components which are capable of stimulating antibodies which are opsonic for pathogenic *Neisseria*.~~ The vaccine of claim 1, wherein said immunogenic element is comprising one or more immunogen components which are capable of stimulating antibodies which are opsonic for pathogenic *Neisseria*.
22. (Currently Amended) ~~A vaccine according to claim 1 for the treatment of a condition characterized by *Neisseria meningitidis* infection.~~ The vaccine of claim 1 for the treatment of a condition characterized by *Neisseria meningitidis* infection.
23. (Currently Amended) ~~A vaccine according to claim 22 for the treatment of a condition characterized by *Neisseria meningitidis* group B infection.~~ The vaccine of claim 22 for the treatment of a condition characterized by *Neisseria meningitidis* group B infection.
24. (Currently Amended) ~~A vaccine according to~~ Use of the vaccine of claim 1, for the treatment of meningitis, septicaemia or pneumonia or any other manifestation of systemic or local disease occasioned by a *Neisseria meningitidis* strain that is specifically recognized by antibodies elicited by said vaccine.
25. (Currently Amended) ~~Use of the vaccine of A vaccine according to claim 1 for the prevention-treatment of urethritis, salpingitis, cervicitis, proctitis, pharyngitis, pelvic inflammatory disease or any other manifestation of systemic or local disease occasioned by a *Neisseria gonorrhoeae* strain that is specifically recognized by antibodies elicited by said vaccine.~~ Use of the vaccine of claim 1 for the prevention-treatment of urethritis, salpingitis, cervicitis, proctitis, pharyngitis, pelvic inflammatory disease or any other manifestation of systemic or local disease occasioned by a *Neisseria gonorrhoeae* strain that is specifically recognized by antibodies elicited by said vaccine.
26. (Currently Amended) ~~A vaccine according to claim 1, which is a conjugated vaccine.~~ The vaccine of claim 1, which is a conjugated vaccine.
27. (Currently Amended) ~~A vaccine according to claim 1, which is derived from a wherein said *Neisseria* lipopolysaccharide inner core is a commensal *Neisseria* inner core.~~ The vaccine of claim 1, wherein said *Neisseria* lipopolysaccharide inner core is a commensal *Neisseria* inner core.
28. (Currently Amended) ~~A vaccine according to claim 27, wherein the commensal *Neisseria* is *Neisseria lactamica*.~~ The vaccine of claim 27, wherein the commensal *Neisseria* is *Neisseria lactamica*.
- 29-41. Cancelled.
42. (New) A vaccine for the treatment of disease caused by pathogenic *Neisseria*, comprising a *galE* mutant *Neisseria* bacterium, wherein said vaccine elicits protective and/or immunoprophylactic antibodies against a majority of pathogenic *Neisseria* strains.
43. (New) The vaccine of claim 42, wherein said *Neisseria* bacterium is *N. meningitidis*.
44. (New) The vaccine of claim 42, wherein said *N. meningitidis* is a group B *N. meningitidis*.
45. (New) The vaccine of claim 42, wherein said *N. meningitidis* bacterium comprises a lipopolysaccharide inner core characterized by the presence of a phosphoethanolamine moiety linked to a 3, 6, 7, or a combination thereof, position of HepII of the inner core.

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46. (New) The vaccine of claim 42, wherein said *N. meningitidis* bacterium is killed or inactivated.

47. (New) The vaccine of claim 42, wherein said *N. meningitidis* bacterium is attenuated.